APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/719,819	11/20/2003	Dmitry Potapov	50277-2294	3301

29989	7590	05/15/2006

HICKMAN PALERMO TRUONG & BECKER, LLP
2055 GATEWAY PLACE
SUITE 550
SAN JOSE, CA 95110

EXAMINER
ROSE, HELENE ROBERTA

ART UNIT	PAPER NUMBER
2163	

DATE MAILED: 05/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>20 November 2003</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-37</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-37</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>20 November 2003</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>5/17/04</u>.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

Detailed Action

1.   Claims 1-34 have been presented for examination.

2.   Claims 1-34 have been rejected.

Information Disclosure Statement

3.   The information disclosure statement (IDS) submitted on 5/17/04, accordingly, the

information disclosure statement is being considered by the examiner.

Claim Objections

4.   Claims 4 and 36 are objected to because of the following informalities: Claims 4 and 36

are indicated as separate claim limitations, i.e. separate lines, within the claims. Therefore, the

following claims require a "semi-colon" vs. "comma". Appropriate correction is required.

Claims 4 and 6 are objected to because of the following informalities: Claims 4 and 6 have

parentheses within claims "(IOT)", Examiner suggest removing the cited parentheses from claim

limitation. Appropriate correction is required.

Claim Rejections – 35 U.S.C – 102

5.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an

international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6.   Claims 1-37 are rejected under 35 U.S.C. 102(e) as being anticipated by Witkowski et al

(US Patent No. 6,457,000, Date of Patent: September 24, 2002).

The applied reference has a common assignee with the instant application. Based upon

the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C.

102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37

CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the

inventor of this application and is thus not the invention "by another," or by an appropriate

showing under 37 CFR 1.131.

Claim 1:

Regarding claim 1, Witkowski teaches a machine implemented method comprising:

accessing rows in a table (column 2, lines 25-26, wherein accesses one or more previous

rows of data, i.e., relative to a current row of data, Witkowski), where each row in the table

corresponds to a dimension value combination (Figures 2 and 3, all features, Witkowski) and a

location at which each row is stored is determined based on the dimension value combination to

which the row corresponds (column 6, lines 33-45, wherein the buffer may created in various

ways depending on the specific implementations of the prior function and the location of the

previous rows relative to the current row, when a single buffer is used, the size of the sliding

window dictates the minimum size of the buffer, wherein for example, if the offset is 5, then the

sliding window is 6, i.e. to hold the current row and the five prior rows, the buffer allocated to

support the sliding window is large enough to hold the desired data from the six row and column

7, lines 38-40, wherein the offset parameter stores a value indicative of the sequential location of the desired previous rows of data relative to the current row of data, Witkowski); and

wherein the accessing of the rows also includes, in response to receiving a request for a row corresponding to a particular dimension value combination (column 11, lines 52-56, wherein the value returned by the function is used to calculate values requested by the client station as part of a query, once the values have been calculated they are inserted into specified columns of the current row and current row delivered to the client station, Witkowski), using the particular dimension value combination for calculating the location of the particular row (Figure 2, all features and columns 7-8, lines 63-67 and lines 1-14, wherein diagram 260 illustrates results generated for a query that accesses the first table, i.e. diagram 250, and makes use of the prior function, wherein diagram 260, includes a single column entitled c_sum, wherein c_sum of the second table indicates the sum of the sales receipt from the first day to the current value, wherein values for the c_sum column can be calculated , wherein access to row in the generation sequence that immediately precedes the current row and retrieve the values in the c_sum column of the prior row, the retrieved value for c_sum is then added to the value of the sales column for the current row, Witkowski).

Claim 2:

Regarding claim 2, Witkowski teaches wherein the dimension value combination includes values for one or more dimensions (column, lines 6-21, wherein the size of the sliding window is using other parameters and counting variables in order to ensure that once the predetermined number of days have passed a new moving sum calculation is initiated, wherein value of sales column of the row corresponding to the first day of the week, the values of the

moving sum column for days 2-7 of any given week is calculated by **adding** the value of the

sales column in the current row to the value of the moving sum column from the previous row,

once the value if the moving sum has been calculated for the current row, the current row may be

transmitted to the client station and the **next row in generation sequence** may be established by

current row, Witkowski), and the table does not include columns for storing values for the one or

more dimensions (column 8, lines 26-35, wherein first column would store values corresponding

to the day number, the second column would store values corresponding to the total receipts for

the corresponding day, the third column would store values corresponding the cumulative sum

over the selected days, that table would be order in ascending order **based** on the day so the

values in the c_sum column can be interpreted, Witkowski).

Claim 3:

Regarding claim 3, Witkowski teaches wherein said table includes a plurality of

segments, and wherein each segment stores rows for a contiguous range of dimension value

combinations (Figure 3, all features and column 2, lines 25-26, column 11, lines 8-10,

Witkowski).

Claim 4:

Regarding claim 4, Witkowski teaches creating an indexed organized table that includes

an entry for each segment in the plurality of segments (column 11, lines 55-63, wherein inserted

into specified columns of the current row is interpreted to be the entry and wherein if the there

are additional rows then control transfers to the control block where the sequence is repeated

until all rows have been delivered, Witkowski), and the calculating of the position of the

particular row is based in part on information contained in the entry that corresponds to the

segment that contains the particular row (Figure 4, diagram S424, S426, S430, S432 and S434

and column 11, lines 25-56, wherein the Figure and diagrams are more defined, Witkowski).

Claim 5:

Regarding claim 5, Witkowski teaches wherein sizes of the plurality segments (REFER

to claim 3, wherein this limitation has already been addressed, Witkowski) and locations

contained within the plurality of segments are allocated according to a density of discontinuities

in ranges of dimension value combinations (column 5, lines 51-57, wherein 0 indicates previous

row sequentially located zero rows prior to current row, value 1 indicates previous row is

sequentially located 1 prior to the current row, and so forth, ,wherein sequentially is interpreted

to be one treatment after another and column 6, lines 43-45, wherein allocated to support the

sliding window is defined, Witkowski).

Claim 6:

Regarding claim 6, Witkowski teaches accessing an indexed organized table (IOT) that

includes an entry for each segment in the plurality of segments (**REFER** to claim 1, wherein

accessing rows in a table and claim 4, wherein indexed organized table that includes an entry for

each segment in plurality of segments have already been addressed, Witkowski); and the

calculating of the position of the particular row is based in part on information contained in the

entry that corresponds to the segment that contains the particular row (**REFER** to claim 4,

wherein this limitation has already been addressed, Witkowski).

Claim 7:

Regarding claim 7, Witkowski teaches wherein the index organized table includes non-

key information used for determining locations of gaps in ranges of dimension value

combinations that are between the segments (column 6, lines 61-67, wherein if the offset

parameters used in the different PRIOR functions require access to rows that are far apart from

each other then a first buffer is created to accommodate the first offset parameter and a second

buffer is created to accommodate the second offset parameter, wherein separate pointers are the

used to reference the two buffers, Witkowski).

Claim 8:

Regarding claim 8, Witkowski teaches wherein at least one of the plurality of segments

includes more than one contiguous range of dimension value combinations column 5, lines 51-

57, wherein 0 indicates previous row sequentially located zero rows prior to current row, value 1

indicates previous row is sequentially located 1 prior to the current row, and so forth, wherein

sequentially is interpreted to be one treatment after another, Witkowski).

Claim 9:

Regarding claim 9, Witkowski teaches wherein at least one of the plurality of segments

comprises at least two contiguous range of dimension value combinations that are joined

together by at least one dummy entry in the table, therein forming one contiguous range of

dimension value combinations (column 5, lines 51-57, wherein 0 indicates previous row

sequentially located zero rows prior to current row, value 1 indicates previous row is sequentially

located 1 prior to the current row, and so forth, ,wherein sequentially is interpreted to be one

treatment after another, wherein the dummy is interpreted to be the 0, Witkowski).

Claim 10:

Regarding claim 10, Witkowski teaches wherein the at least two of the plurality of

segments are each divided into blocks having a block size (column 8, lines 40-52, wherein

c_sum, i.e. cumulative sum, -PRIOR (c_sum, 3, 0)) /3 as m_avg from table_1, wherein 3 is

interpreted to be size, i.e. sliding window, Witkowski), and the block size of a first of the at least

two of the plurality of segments is different from the block size of a second of the at least two of

the plurality of segments (Figure 4, diagram S426, wherein yes or no is defined according to

range, and continues on to diagrams S428, S434, S436, and S438 to 3, wherein more rows is

illustrated, Witkowski).

Claim 11:

Regarding claim 11, Witkowski teaches wherein the IOT includes an identification of a

reference location for each segment of the plurality of segments from which offsets from the

reference location are calculated to reach other locations in each of the segments (column 6, lines

61-67, wherein if the offset parameters used in the different PRIOR functions require access to

rows that are far apart from each other then a first buffer is created to accommodate the first

offset parameter and a second buffer is created to accommodate the second offset parameter,

wherein separate pointers are the used to reference the two buffers, Witkowski).

Claim 12:

Regarding claim 12,Witkowski teaches wherein each of the plurality of segments is

divided into one or more blocks of equal size (column 8, lines 40-52, wherein c_sum, i.e.

cumulative sum, -PRIOR (c_sum, 3, 0)) /3 as m_avg from table_1, wherein 3 is interpreted to be

size, i.e. sliding window, Witkowski).

Claim 13:

Regarding clam 13, Witkowski teaches wherein the accessing of the location of interest is

also performed by at least accessing a table having an identification of a dimension value of a

reference location included in the block from which offsets are calculated to other locations

(column 5, line 40, wherein the function is referenced using the keyword PRIOR, lines 49-51,

wherein offset parameter is used to specify an offset, relative to the current row of the previous

row from which data is to be retrieved, lines 58-65, wherein default value parameter is used to

indicate a value that will be returned if the offset parameter would cause us to access rows

outside the available range, Witkowski).

Claim 14:

Regarding claim 14, Witkowski teaches wherein the reference location is an index value

of a first of location within a segment that stores rows for a contiguous range of dimension value

combinations (REFER to claim 3, wherein this limitation has already been addressed,

Witkowski).

Claim 15:

Regarding claim 15, Witkowski teaches wherein the table having the identification is a B-

tree index (column 8, line 34, wherein ascending order is defined, and wherein b-tree index is

interpreted to be a type of index that uses a balanced tree structure for efficient record retrieval.

B-tree indexes store key data in **ascending** or descending order, Witkowski).

Claim 16:

Regarding claim 16, Witkowski teaches wherein the table having the identification is a

bit map index (column 10, lines 27-39, wherein lower bound on the problem of the prefix sum is

O (n/p), wherein this interpreted to be bitmap index, wherein it's normally used to index low

cardinality columns in a warehouse environment, Witkowski).

Claim 17-33:

Regarding claims 17-33, Witkowski teaches a computer-readable medium carrying one

or more sequences of instructions (column 2, lines 62-63, Witkowski), which when executed by

one or more processors (column 4, lines 46-47, Witkowski), causes the one or more processors to

perform (column 4, lines 48-60, see the example, Witkowski)

Claim 34:

Regarding claim 34, Witkowski teaches a system comprising a computer readable media

system including one or more computer readable media (Figure 1, all features, Witkowski) the

computer readable media system having stored therein at least:

a table storing data on the computer readable media that corresponds to locations

associated with at least one dimension value (Figure 2, all features, Witkowski); wherein the data

items are stored in the table in an order dictated by the data values to which the data items

correspond (Figure 2, diagrams 210, 252 and 254, Witkowski); and

wherein the table does not store values for the particular dimension (REFER to claim 2,

wherein this limitation has already been addressed, Witkowski).

Claim 35:

Regarding claim 35, Witkowski teaches wherein all of the locations of the table that have

non-null values are organized into one or more segments, each segment including a contiguous

region of data without discontinuities in the dimensions (column 5, lines 60-65, wherein the

current row is the fifth row in the generation sequence of rows the offset parameter has a value of

6, then the previous row specified by the offset parameter is undefined because it falls outside

the addressable range of rows, wherein discontinuities is interpreted to be not defined,

Witkowski).

<u>Claim 36</u>:

Regarding claim 36, Witkowski teaches wherein the table has associated with it at least one dimension value combination that is associated with a null value, and that is not included in any of the one or more segments (column 6, lines 8-21, wherein previous rows retrieved would always be the row that immediately precedes the current row, wherein the default value would always be interpreted as 0, Witkowksi).

<u>Claim 37</u>:

Regarding claim 37, Witkowski teaches wherein the computer readable media system also has stored therein at least:

another table storing identifiers for determining the locations stored within each segment of the one or more segments (column 2, lines 53-58, wherein includes a default parameter that specifies a default value which will be returned if the offset parameter is determined to be outside a predetermined range of addressable rows in the generation sequence, Witkowski).

Prior Art of Record

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

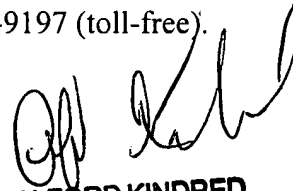Witkowski et al   (US Patent No. 6,457,000)

Point of Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helene Rose whose telephone number is (571) 272-0749. The examiner can normally be reached on 8:00am - 4:30pm Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Helene Rose
Technology Center 2100
May 1, 2006

ALFORD KINDRED
PRIMARY EXAMINER